

## REPORT OF THE SUBCOMMITTEE ON AVIAN MYCOPLASMOSIS

### Funding Resolutions.

The committee needs to reconsider funding resolutions for the establishment and support of designated laboratories for the evaluation of mycoplasma reactors in flocks tested for official national classifications, and for research on mycoplasma eradication techniques or multiple-age layer farms. Particular attention needs to be given to the amount of money requested in lieu of current federal budgetary constraints, and to strategies that will garner maximum support from veterinary laboratory diagnosticians, industry, and state regulatory agencies.

### Economic Impact and National Prevalence of Avian Mycoplasmosis on Layer Farms.

A statistical study of 113 Pennsylvania table egg flocks indicates that, regardless of strain, a significant ( $p < .001$ ) difference of 16 eggs per hen housed exists through 45 weeks of lay in favor of flocks maintained free of M. gallisepticum (MG) compared to those infected naturally after on-set of egg production (Table 1). Extrapolated to 12 months of lay (i.e.: estimating the expected values from an additional 7 weeks of egg production), MG free layers could be expected to average 250.5 eggs per hen and MG naturally infected 232 eggs - a difference of 18-19 eggs per hen.

A recent study of 61 flock records of layers on New York poultry farms (D. L. Cunningham, Department of Poultry and Avian Sciences, Cornell University, Cornell Poultry Pointers, March 1981) demonstrated that egg production differences of this magnitude (18-19 eggs/hen) can be the difference between significant profit or significant loss (Table 2). Those flocks averaging less than 240 eggs per hen averaged negative net returns per dozen while those producing better than 240 eggs showed positive returns per dozen.

These observations suggest that proper control of avian mycoplasmosis may well be vital to the economic survival of many poultrymen.

A 1979 telephone survey of industry veterinarians indicating that 40-60% of U.S. egg production flocks may be infected with MG and/or M. synoviae (MS) suggests the possible existence of a problem of major proportions. More extensive studies concerning the effects and prevalence of avian mycoplasmosis, particularly but not necessarily exclusively with respect to table egg flocks, seem highly advisable at this time.

### Apparent Prerequisites for Better Control in Layers.

1. Greater availability of chicks from multiplier breeders with official U.S. MG and MS Clean classifications. Essentially only one-half of egg-type multiplier breeders have attained these classifications. Official MG and MS Clean pullet rating programs have been proposed by the National Poultry Improvement Plan to advance the marketing and "farmer recognition" of stock that has been produced in compliance with standards to prevent the spread of MG or MS.
2. Graded industry bio-security standards for all flock service personnel and poultry hauling operations.



3. Greater refinement and documentation of successful techniques to eliminate MG and/or MS from multiple-age layer farms, including proper depopulation and re-stocking strategies, correct decontamination techniques, appropriate medication programs, and best ways to use live and killed MG vaccines. Observations reveal particularly vexing difficulties with many large complexes. Limited field observations suggesting that MS is unusually persistent on certain premises warrant further investigation.

Avian Mycoplasma Symposium.

Dr. Stanley Kleven, University of Georgia, and Dr. Richard Yamamoto, University of California, are developing plans for a symposium on current prospects for the control of avian mycoplasmosis. The symposium is sponsored by the American Association of Avian Pathologists (AAAP). It will be held in Salt Lake City, Utah on Monday morning, July 19, 1982 as part of the annual meeting of the AAAP and American Veterinary Medical Association.

Respectfully submitted,

E. T. Mallinson  
Chairman

Attachment (1)

TABLE 1. Forty-five weeks average of egg production/hen housed analyzed by strain of layer and Mycoplasma gallisepticum (MG) status. Unadjusted and adjusted for strain.<sup>1</sup>

Exposure Status	Strain (Number Flocks)				Adjusted for strain
	A	B	C	D	
MG natural infection (29)	212 (14)	206 (4)	201 (8)	198 (3)	207
MG live vaccine (63)	217 (34)	221 (9)	207 (10)	206 (10)	214
MG free (21)	225 (8)	227 (8)	214 (2)	220 (3)	223

<sup>1</sup>T. E. Carpenter, E. T. Mallinson, K. F. Miller, R. F. Gentry, and L. D. Schwartz. Vaccination with F-strain Mycoplasma gallisepticum to reduce production losses in layer chickens. Av.Dis. 25(2) 404-409. 1981

TABLE 2. Number of eggs produced per hen as related to feed conversion, feed costs, and net income per dozen. <sup>1</sup>

Eggs produced per hen <sup>2</sup>	Percentage of flocks	Feed/dozen	Feed costs/dozen	Total costs/dozen	Net Income/dozen
Under 200	9.8	4.7 lbs.	36.6¢	66.4¢	-3.0¢
200 to 219	21.3	4.9	34.2	64.0	-2.7
220 to 239	29.5	4.5	30.3	57.8	-0.4
240 to 259	24.6	3.8	29.2	54.6	0.5
260 and over	14.8	4.1	28.5	52.3	3.9

<sup>1</sup>Cunningham, D. L. Eggs produced per hen greatly affect income. Poultry Digest 40(474) 410. August 1981.

<sup>2</sup>Based on 12 months of lay.